

**CONFIDENTIAL COMMUNICATION
FOR DISCUSSION PURPOSES ONLY**

**U.S. Patent Application 10/539,229
Attorney Docket 056159-5261**

Claim 1 (currently amended): A method for producing a type III antifreeze protein (AFP) which method comprises expressing in a fungal host cell which is deficient in protein glycosylation in comparison to a parent strain, a nucleic acid sequence encoding the AFP wherein the fungal host cell is a yeast;
the type III AFP has at least 80% amino acid sequence homology to SEQ ID NO: 1 wherein the type III AFP exhibits ice recrystallization inhibitory activity; and
the fungal host cell is deficient in protein mannosyl transferase 1 (pmt1) and/or protein mannosyl transferase 2 (pmt2).

Claims 2-5 (canceled)

Claim 6 (previously presented): A method according to claim 1 wherein the yeast is a pmt1-deficient mutant strain.

Claim 7 (previously presented): A method according to claim 1 wherein the yeast is a pmt2-deficient mutant strain.

Claim 8 (previously presented): A method according to claim 1 wherein the yeast is *Saccharomyces cerevisiae*.

Claim 9 (previously presented): A method according to claim 1 wherein the type III AFP is type III HPLC-12.

Claims 10-11 (canceled)

Claim 12 (previously presented): A method according to claim 6 wherein the yeast is a pmt2-deficient mutant strain.

Claim 13 (canceled)

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Claim 14 (currently amended): A method according to claim 1 wherein the type III AFP has at least 90% amino acid sequence homology to SEQ ID NO: 1.

Claim 15 (currently amended): A method according to claim 1 wherein the type III AFP has at least 95% amino acid sequence homology to SEQ ID NO: 1.

Claim 16 (previously presented): A method according to claim 1 wherein the type III AFP comprises SEQ ID NO: 1.

Claim 17 (currently amended): A method for producing a type III HPLC-12 antifreeze protein (AFP) and functional equivalents thereof which exhibits ice recrystallization inhibitory activity having at least 80% amino acid sequence identity with SEQ ID NO: 1 which method comprises expressing in a yeast host cell which is deficient in protein glycosylation in comparison to a parent strain, a nucleic acid sequence encoding the AFP, wherein the yeast is a strain which is deficient in pmt1 or pmt2 in comparison to a parent strain ~~is a protein-mannosyl transferase 1-deficient and/or a protein-mannosyl-transferase 2-deficient strain.~~

Claim 18 (previously presented): A method according to claim 14 wherein the yeast is *Saccharomyces cerevisiae*.